

**ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AIR PERMITS PROGRAM**

**TECHNICAL ANALYSIS REPORT
For Air Quality Control Construction Permit No. 489CP09
Project X-209**

**ConocoPhillips Alaska Inc.
Alpine Development Project**

SATELLITE DRILLING PADS CD3 AND CD4

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ABBREVIATIONS AND ACRONYMS

ACMP	Alaska Coastal Management Program
ADEC.....	Alaska Department of Environmental Conservation (the department)
ADP.....	Alpine Development Project
ARCO	Atlantic Richfield Corporation
AQC	Air Quality Control
AQCCP	Air Quality Control Construction Permit
bbls.....	barrels
Btu.....	British thermal units
CDN	Colville Delta North
CDS.....	Colville Delta South
CEMS.....	Continuous Emission Monitoring System
CO	Carbon Monoxide
CPAI	ConocoPhillips Alaska Inc.
CPF	Central Processing Facility
CPQ.....	Coastal Project Questionnaire
CRU	Coleville River Unit
EPA.....	US Environmental Protection Agency
gr./dscf	grains per dry standard cubic foot
ISCST3.....	Industrial Source Complex Short Term Model
lb/hr	pounds per hour
MMBtu.....	Million British thermal units
MW	Megawatts
kW.....	Kilowatts
NAAQS.....	National Ambient Air Quality Standards
NO ₂	Nitrogen Dioxide
NO _x	Oxides of Nitrogen
O ₂	Oxygen
OPMP.....	Office of Project Management and Permitting
PM.....	Particulate Matter
PM-10	Particulate Matter (less than 10 micrometers in size)
ppm	parts per million
PSD	Prevention of Significant Deterioration
SO ₂	Sulfur Dioxide
tpy	tons per year
UTP.....	Union Texas Petroleum
VOC	Volatile Organic Compounds

1.0 INTRODUCTION

1.1 Background

The Alpine Development Project (ADP) is operated by ConocoPhillips Alaska Inc. (CPAI) previously known as Phillips Alaska Inc. The ADP is located in the Colville River Delta approximately 35 miles west of the Kuparuk River Unit. Development in the Colville River Unit (CRU) began with the ADP consisting of the eastern pad CD1, including drill sites and the central processing facility (CPF) and the western pad, CD2, located approximately 3 miles west-southwest of CD1. The village of Nuiqsut, population 450, lies 8 miles to the south of the CPF.

The original CRU development envisioned future expansion at the Fiord in the north and Nanuk in the south as satellite development to the ADP (ARCO et. al., 1997). Satellites allow development of smaller hydrocarbon accumulations that cannot be reached from the Alpine infrastructure and cannot support separate processing facilities. The ADP was originally co-owned by ARCO, Union Texas Petroleum (UTP) and Anadarko in the proportions 56:22:22. The source is currently owned by ConocoPhillips and Anadarko in ratios 78:22. ARCO purchased the UTP portion.

The department has classified the air quality surrounding the stationary source as in attainment or unclassified with respect to the National Ambient Air Quality Standards (NAAQS). The nearest areas designated as nonattainment for any criteria pollutant are the Fairbanks and North Pole urban areas located more than 400 miles (250 km) to the south, and separated by the Brooks Range. Due to the great distances and topography, the source will not have an impact on these nonattainment areas.

Areas in attainment with the NAAQS are categorized as Class I, Class II, and Class III areas for the purpose of air quality maintenance, depending on the level of industrial growth expected, and the need to protect the area's air quality. The Environmental Protection Agency has established ambient air quality increments for each class, with Class I areas being most restrictive. The facility area is designated as a Class II area. The nearest Class I area is Denali National Park, located over 450 miles (725 km) south of the facility.

1.2 Permits Issued

Exploration for the ADP began in 1995 with the department issuing Air Quality Control (AQC) construction permits authorizing exploration drilling in Alpine. The Department processed several Air Quality Control permit applications thereafter, for earlier phases of the ADP. Please refer to the Technical Analysis Report for Permit No. 489CP07 issued on March 04, 2003 for an overview of previous permit issued for the ADP.

AQC permit No. 489CP07 authorized the continued use of intermittently used small portable equipment during the life of the project and deleted conditions that were no longer needed due to completion of Phase I and II operations. In August of 2001, CPAI submitted an application for the expansion of the ADP. Permit No. 489CP07 did not incorporate any requests for the ADP expansion made in August 2001.

On May 21, 2003, CPAI requested revisions to Permit No. 489CP07 for permit hygiene and revisions to existing operating limits to allow operational flexibility. On April 2, 2004 the department issued AQC permit No. 489CP08 decision to grant CPAI's request.

On February 27, 2004, the department received CPAI's permit application per the "Solar Taurus project" to replace the existing liquid fired emergency generators CF-G-70003 (2 MW), CF-G-70004 (2 MW), UT1 (930 kW) and UT2 (800 kW) at the CPF with two 5.5 MW Solar Taurus turbines (one dual fuel fired and one gas only) backup units and a reciprocating internal combustion engine at the central processing facility. CPAI requested that the turbine replacement project be reviewed under PSD and requested a separate permit be issued. The department issued permit No. 489CP10 for the "Solar Taurus project" on September 17, 2004.

The ADP is currently regulated under AQC Construction Permit No. 489CP08 issued on April 02, 2004, AQC Construction Permit No. 489CP10 issued on and Operating Permit No. 489TVP01 issued on August 18 2003.

1.3 Project Scope

CPAI's proposed phased expansion of the ADP consist of the construction of two satellite drill sites Coleville Delta North (CDN originally referred to as Fiord) approximately 5 miles north of the Alpine CPF and drill site Coleville Delta South (CDS originally referred to as Nanuq) approximately 4 miles south of the CPF. These satellites will link to the CPF with three phase production and other utility pipelines. CPF is located at drill site CD1. The CDS and CDN will require construction of gravel drill pads at two locations within a 5 mile radius of the Alpine CPF. The CDS will be accessed via a 3.6 mile gravel road and CDN via an airstrip constructed at the drill site.

On August 3, 2001, CPAI submitted an application to the department requesting approval to add two 20 MMBtu/hr gas-fired production heaters, one each at CDN and CDS and one 250 kW liquid fuel fired IC engine driven backup generator at CDN. These satellites will link to the CPF with three phase production and other utility pipelines. CPF is located at drill site CD1.

In March of 2002, CPAI made project scope changes to the original permit application to emission unit locations that necessitated re-assessment of air quality impact analysis. An additional re-assessment of the project was necessitated in May, 2003 due to source allocation and scheduling unrelated to the air permit. On the request of CPAI the department held off on issuing a construction permit for the August 2001 permit application.

On January 20, 2004, CPAI re-submitted the requests for expansion of the ADP for the proposed satellite drill site CD3 (previously known as CDN and Fiord) and drill site CD4 (previously known as CDS and Nanuq). Attachment B-2 and B-3 of the CPAI's January 20, 2004 permit application shows the locations of CD3 and CD4 relative to CD1 and CD2.

The department originally determined the Alpine Unit consisting of surface structures at CD1 and CD2 as a single stationary source. In view of the physical proximity, interdependence, and

common ownership of CD1, CD2, CD3 and CD4, the department and CPAI agrees that CD3 and CD4 are part of the original ADP for Prevention of Significant Deterioration (PSD) applicability.

The department viewed the proposed expansion to the ADP as a modification to an existing PSD major stationary source. The proposed modification to the ADP consists of installing a 20 MMBtu/hr gas fired production heater and a 250 kW emergency back up generator at CD3 and a 20 MMBtu/hr gas fired production heater at CD4. The applicant noted that the proposed project emissions inventory is the same as in the August, 2001 application except for the VOC emissions from portable storage tanks and Hazardous Air Pollutants (HAPs) from the emission source that were omitted from the August, 2001 application. The January 2004, permit application was supplemented with supporting modeling information from SECOR International Inc. CPAI submitted supplements to the permit application through April 16, 2004.

The applications for the Solar Taurus project and the current CD3 and CD4 drill site pads project were submitted within a month of each other. Therefore the department needed to determine if they were related to each other for PSD applicability. If related, the project would be subject to PSD review and the proposed emission units at CD3 and CD4 would be subject to Best Available Control Technology evaluation.

The Environmental Protection Agency (EPA) has established guidance to determine when minor source construction permits are shams. The criteria for making such a determination include 1) a major source modification permit application filed simultaneously with a minor source construction permit, 2) applications for funding, 3) reports on consumer demand and projected production levels, 4) statements of authorized representatives of the source regarding plans of operation.

On April 8, CPAI in a letter to the department (see Exhibit A) provided reasons in support of their assertion that the Solar Taurus project and the CD3 and CD4 drill site pads project are not related. The original application for the CD3 and CD4 drill site pads project were submitted 3 years prior to the application for the Solar Taurus project. The Solar Taurus project was necessitated by reliability issues of the existing backup generators. The existing Alpine power generating capacity (45.9 MW-winter and 37.6 MW-summer) is sufficient to meet the CD3 demand (0.8 MW-summer and 0.2 MW-winter) and CD4 demand (0.5 MW-summer and 0.1 MW-winter). CPAI was not proposing to increase power generation but rather to replace four diesel backup units with state of the art Solar Taurus gas turbines. The Solar Taurus project will improve reliability of emergency power generation equipment.

Based on CPAI's reasons listed in Exhibit A, the department concurs with CPAI that the two projects are unrelated. Therefore CD3 and CD4 drill site pads project will be reviewed as a stand alone project.

On May 07, 2004, CPAI made a project scope change to the CD3 and CD4 permit application that necessitated another re-assessment of the project. On the request of CPAI the department held off on issuing a construction permit for the January 20, 2004 permit application. These changes included replacing the 250 kW IC engine with a 600 kW IC engine, installation of 10 fuel storage tanks at CD3 and installation of 4 storage tanks at CD4, requesting VOC emissions

limits to under 35 tpy from portable crude oil storage tanks. The department received supplemental information in support of the changes to the project through November 24, 2004.

1.4 Current Findings:

1. CPAI's ADP (consisting of CD1 and CD2 and CPF), is an existing facility classified as a PSD major stationary source under the department's AQC regulations as listed in 18 AAC 50.300(c)(1)¹.
2. The department issued AQC Construction Permit No. 9873-AC033 in February, 1999 under PSD review and subsequently issued Construction Permit Nos. 9973-AC017, 0073-AC009, 0073-AC060, 489CP07, 489CP08 and 489CP10 for changes to the ADP.
3. The Department issued AQC Operating Permit No. 489TVP01 on August 18, 2003 for the ADP. The ADP is currently regulated by AQC Construction Permit Nos. 489CP08, 489CP10 and Operating Permit No. 489TVP01.
4. On January 20, 2004 the department received CPAI's request for department authorization to install a 20 MMBtu/hr gas fired heater and a 250 kW backup generator at CD3, a 20 MMBtu/hr gas fired heater at CD4 and portable fuel oil storage tanks at the two drill site. On November 17, 2004 the department received CPAI's request to install 14 stationary tanks, Owner Requested Limits (ORL) on VOC emissions from portable crude oil tanks, and to replace the 250 kW emergency generator with a 600 ekW emergency generator.
5. As restricted by permit limits, the net emissions increases due to this project are below the thresholds in 18 AAC 50.300(h)(3), so this project will not trigger PSD review.
6. The project is classified under 18 AAC 50.300(h)(2) because it would cause an increase in actual emissions beyond current allowable emissions for a pollutant for which an ambient air quality standard has been established in 18 AAC 50.010.
7. Under 18 AAC 50.310(n)(2), CPAI was required to prepare an ambient air quality assessment for a modification classified under 18 AAC 50.300(h)(2). Therefore, CPAI was required to submit a NO₂, SO₂ and PM-10 demonstration because there was an increase in allowable emissions for these pollutants. CPAI also modeled the CO impacts. The department did not ask for VOC demonstration under the discretionary provision contained in 18 AAC 50.310(c)(5).
8. All fuel burning equipment are subject to limits of fuel gas H₂S content of 200 ppmv and liquid fuel sulfur content of 0.11% by weight in order to comply with the NAAQS and increment levels for SO₂.

¹ Alaska's air quality permit program and associated regulations underwent a major revision that became effective October 1, 2004. Applicants who submitted a complete permit application prior to this date have the option of having their applications processed under either the "new" or "old" program. Per CPAI's request, the Department is processing the CD-3 application and modeling analysis under the old program/regulations

9. The new production heaters, CD-3-H, CD4-H and the emergency generator are fuel-burning emission units that are subject to the State AQC Regulations 18 AAC 50.055(a)(1) for visible emissions, 18 AAC 50.055(b)(1) for particulate matter emissions, and 18 AAC 50.055(c) for sulfur compound emissions.
10. The new production heaters, CD3-H and CD4-H, are subject to the fuel consumption monitoring and recordkeeping requirements of NSPS Subpart Dc (40 CFR 60.48c(g)).
11. The proposed new emission units have potential to emit 38 tons per year (tpy) nitrogen oxides (NO_x), 5 tpy sulfur dioxide (SO₂), 22 tpy carbon monoxide (CO), 3 tpy particulate matter less than 10 micrometer (PM-10), 38 tpy volatile organic matter (VOC) and 3 tpy hazardous air pollutants (HAPs).
12. The stationary source is located within the North Slope Borough' Coastal Management District. Therefore, project consistency under the Alaska Coastal Management Program is required.

2.0 PROJECT EMISSIONS

The department considers the changes proposed by the current permit action to be a modification to the existing stationary source, and therefore the associated emission increases need to be reviewed to determine if they are considered a PSD significant modification as defined under 18 AAC 50.300(h)(3). Table 3-1 shows the emissions estimates for the proposed two production heaters, backup diesel generator, portable and fuel storage tanks.

As shown in Table 3-1 the emission increases due to the proposed additional equipment does not exceed the PSD significance thresholds listed in 18 AAC 50.300(h)(3). However, the proposed changes do increase actual emissions of an air contaminant beyond the stationary source's allowable emissions and therefore the proposed change is a modification as classified under 18 AAC 50.300(h)(2).

Table 3-1 – Stationary Source Emission Increases

Potential Emissions	Emissions					
	NO _x	CO	SO ₂	PM-10	VOC	HAP ¹
Gas fired heater at CD3 (20 MMBtu/hr)	8.8	8.8	2.1	0.7	0.9	0.46
Gas fired heater at CD4 (20 MMBtu/hr)	8.8	8.8	2.1	0.7	0.9	0.46
IC generator at CD3 (600 ekW)	20.4	4.7	0.7	0.5	0.6	0.00
Stationary Tanks					0.02	
Portable fuel storage tanks (ORL)					35.0	<1.052
Project emissions	38.0	22.3	4.9	1.9	37.4	2.0

¹ From permit application of January 2004 and supplemental information of November 17, 2004.

2.1 Emissions Calculations for Heaters and IC Engine

Emissions for the gas fired heaters were calculated from a combination of manufacturer and AP-42 emission factors. Emissions for the IC engine were calculated from AP-42 emission factors. Detailed emission calculations are shown in Exhibit B.

2.2 Owner Requested Limit for VOC Emissions

CPAI has requested a limit of 35 tons per year of VOC's from the portable fuel storage tanks. In order to stay under the limit, CPAI will use separators as necessary. The VOC emissions are a result of well kick-off, a procedure during which a mix of crude oil and liquids under pressure are sent to atmospheric portable storage tanks. Well kick-off is necessary to activate an exploration well to production status. The potential VOC emissions from each kick-off is highly variable due to changes in liquid composition, gas composition, equipment used, amount of produced liquids, pressure drop and temperature.

CPAI has proposed to monitor the volume of liquid accumulated in the tanks, percentage of live crude oil in the liquid, and volume of gas vented from the crude oil to estimate the tonnage of VOC's emitted in compliance with the ORL. In order to capture the variation of the percentage of live crude oil in the liquid, the department added the requirement to draw samples at hourly intervals for analysis when fluids are sent to the tanks. CPAI is required to estimate the gas to oil ratio of crude oil transferred to the temporary crude oil storage tank. The department recognizes that it is not practical to specify a single test method to determine the gas to oil ratio but gave CPAI the option to propose an alternate method for department approval. The department has included monitoring requirements in the permit, in order that the VOC emissions estimated are sufficiently accurate.

3.0 EMISSION STANDARDS

For each stationary source or modification subject to construction permitting, an applicant must show that the proposed emission units comply with State and federal emission standards. The department has adopted Federal New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAPs), by reference in 18 AAC 50.040. In addition, the department has emission unit-specific emission standards listed in 18 AAC 50.050-090.

In this section, the department lists each applicable emission standard for the proposed project and analyzes each proposed emission unit to determine whether the unit would comply with the applicable emission standards.

3.1 Alaska Emission Standards

Fuel burning equipment and industrial processes at the stationary source are subject to specific visible emission, particulate matter, and sulfur compound emission standards as listed in 18 AAC 50.055. The proposed emergency standby generator and production heaters being reviewed under this permit decision are fuel burning equipment as defined in

18 AAC 50.990(41). The department has reviewed file documents and prepared monitoring, record keeping, and reporting requirements within the construction permit to ensure the new emission units will comply with emission standards applicable to fuel burning equipment.

3.1.1 Visible Emissions

The new production heaters and emergency generator at CD3 and CD4 are fuel burning equipment subject to two visible emission standards. The standard imposed by the federally adopted state implementation plan prohibits exhaust effluent from exceeding 20 percent opacity, for more than three minutes during any one-hour period. The standard imposed by 18 AAC 50.055(a)(1) prohibits exhaust effluent from exceeding 20 percent averaged over any consecutive six-minute period.

CPAI did not provide a visible emission compliance demonstration for the heaters and emergency generator. Based on historic experience with gas-fired heaters, the department finds that, if properly operated and maintained, the proposed heaters will meet the visible emission standard, so the department did not impose an initial source test in the permit. CPAI is required to monitor record and report visible emission for the gas fired units as required in the operating permit for gas-fired equipment.

CPAI did not provide a visible emission compliance demonstration for the diesel fuel-fired emergency generator. For diesel engines, less certainty exists regarding compliance with visible emissions. The Department possesses records showing that diesel engines can and do exceed the visible emissions standards. Therefore, the department included a requirement to verify compliance with opacity standards by performing an initial visible emission observation within 90 of initial startup of the IC engine and periodic monitoring consistent with the ADP Operating Permit No. 489TVP01.

CPAI requested that the IC engine be exempt from periodic visible emissions monitoring when the unit operates less than 200 hours in any 12 month period. The IC engine has potential NO_x emissions of 20.4 tons per year based on the current operating limit of 2,000 hours and using AP-42 emission factor of 0.0007 lb/hp-hr. The unit will qualify as an insignificant emission unit (IEU) when operated under 200 hours. Using the IEU threshold to trigger visible emission observations is the same approach used by Operating Permit No. 489TVP01 for existing ADP emission units.

3.1.2 Particulate Matter

The proposed fuel burning equipment are subject to a particulate matter standard of 0.05 grains per dry standard cubic foot of exhaust gas (gr./dscf), as listed in 18 AAC 50.055(b)(1).

The department used the following equation from 40 CFR 60, Appendix A, Method 19, to estimate grain loading for compliance.

$$E = CF_d(20.9/(20.9-O_2)), \text{ where}$$

$$E = \text{Emission Factor in lb/MMBtu}$$

C_d = Pollutant concentration, dry basis in lb/scf
 F_d = Factor specific to fuel type in dscf/MMBtu
 O_2 = % oxygen in exhaust gas typical to equipment source

CPAI did not provide the make and model of the emission units for the production heaters and backup generator. In the absence of vendor data, the department estimated PM particulate concentration using emission factors from EPA AP 42. For gas fired heaters and for uncontrolled diesel engines smaller than 600 hp. Using these factors and heating values for fuel gas and liquid fuel (from the permit application), the analysis showed the heaters and the diesel engine would emit particulate matter concentration as shown in the Table 4.1.

Table 4-1 Particulate Emission Estimate

Equipment	Heat Content	Emission Factor	Fuel F-Factor dscf/MMBtu	Assumed % Oxygen	AP-42 Table	Results gr./dscf
Natural Gas-fired Heaters	1,384 Btu/scf	7.6 lb/MMscf	8,710	3 ¹	1.4-2	0.004
Diesel Backup Generator	129,653 Btu/gal	0.1 lb/MMBtu	9,190	10.7 ²	3.3-1	0.036

¹ Assumed excess oxygen of 3% for the predicting impacts.

² Assumed excess oxygen of 10.7%, average of 3 engine types.

As shown in Table 4-1, the proposed gas fired heaters and large diesel emergency generator should comply with state grain loading standard of 0.05 gr./dscf. The department included periodic monitoring and recordkeeping requirements in the permit for continued compliance with the standard in accordance with the operating permit.

3.1.3 Sulfur Compounds

The production heaters and the IC engine are fuel burning equipment subject to sulfur compound emission standard as set out in 18 AAC 50.055(c). Sulfur compound emissions from fuel-burning equipment, expressed as SO₂, may not exceed 500 ppm averaged over a period of three hours.

The applicant proposes to use fuel gas with a hydrogen sulfide content no greater than 200 ppmv for gas fired units for ambient air quality protection. Currently CPAI has a fuel oil sulfur content limit of 0.135 percent by weight. CPAI has requested a lower fuel oil sulfur limit of 0.11 percent by weight for all fuel oil fired units operated at CD3 and CD4 for ambient air quality protection.

Based on mass balance and ideal stoichiometric combustion conditions, the department has determined that fuel gases containing up to 4,355 ppmv hydrogen sulfide will comply with the state sulfur compound emission standard with no excess oxygen. Typically, fuel-burning equipment is operated with combustion air in excess of stoichiometric conditions to ensure fuel is completely burned under non-ideal conditions. This excess air dilutes exhaust gas concentrations of sulfur compounds. Accounting for excess air normal to a fuel-burning unit, the

unit should comply with the sulfur compound limit while burning fuel gas with a sulfur content somewhat greater than 4,355 ppmv hydrogen sulfide.

For the proposed backup generator, based on mass balance and ideal stoichiometric combustion conditions, the department has determined that fuel oil containing up to 0.74% sulfur by weight will comply with the state sulfur compound emission standard with no excess oxygen.

The department has included fuel oil sulfur limits and fuel gas H₂S limits, periodic monitoring, record keeping, and reporting requirements for fuel oil and natural gas to ensure compliance with the state sulfur compound emission standards.

3.1.4 Ice Fog Standards

The department, in its discretion, will require an applicant that proposes to build or operate an industrial process, fuel-burning equipment, or incinerator in an area of potential ice fog to obtain a permit and to reduce water emissions. The CD3 and CD4 drill site pads are located in the Colville River Delta, on the North Slope of Alaska. Dense fog is not a concern in the North Slope and CPAI is not proposing to use water or steam emission control units. Therefore, the department is not placing any additional conditions in the permit to comply with the ice fog standards.

3.1.5 General Air Pollution Prohibited

The operating permit No. 489TVP01 contains terms and conditions to prohibit any emissions that is injurious to human health or welfare, animal or plant life, or property, or that would unreasonably interfere with the enjoyment of life and property as set out under 18 AAC 50.110. Therefore it is not necessary to include general air pollution prohibition provisions in this construction permit.

3.2 Federally Applicable Emission Standards

The U.S. Environmental Protection Agency (EPA) regulates New Source Performance Standards (NSPS). The intent of NSPS is to provide technology-based emission control standards. EPA may delegate to each state the authority to implement and enforce standards of performance for new stationary sources located in that state. ADEC has incorporated by reference the NSPS effective July 1, 2001, for specific industrial activities, as listed in 18 AAC 50.040. However, EPA has not delegated to the department the authority to administer the NSPS program at this time.

For this project, the two production heaters are subject to NSPS, but the diesel reciprocating engine is not. NSPS subpart Dc applies to the CD3 and CD4 production heaters because the heaters will be heating a liquid which will then be used to heating the product. Since a secondary medium is involved, the units will meet the definition in Subpart Dc.

NESHAPs are promulgated by EPA. 18 AAC 50.040 adopts the federal HAP regulations, 40 CFR Part 61, and 40 CFR Part 63, by reference. EPA may delegate to each state the authority to implement and enforce certain standards for sources located in that state. EPA has delegated authority to the Department to administer the NESHAPs program. However, the Department has

yet to adopt the newly promulgated federal standards by reference. The new Maximum Achievable Control Technology (MACT) standards apply to reciprocating IC engines (RICE) at major stationary sources of HAPs.

The ADP is not a major stationary source of HAPs. The total potential HAP emissions for the stationary source are in the order of 20 tpy and the maximum potential individual HAP emissions for the stationary source are in the order of 8.5 tpy. As such, ADP is not a major stationary source of HAPs and the IC engine is not subject to the federal RICE MACT standards for the reciprocating engines.

4.0 AMBIENT AIR QUALITY IMPACT ANALYSIS

CPAI submitted a modeling analysis with their original application and a revised analysis with the updated emission inventory. Appendix D contains the department's review memorandum regarding the original modeling analysis. Appendix C contains the department's review memorandum regarding the revised analysis. CPAI's analysis adequately shows that operating their emission units within the requested constraints will not cause or contribute to a violation of the ambient air quality standards provided in 18 AAC 50.010, or the maximum allowable increases (increments) provided in 18 AAC 50.020.

The department included the following provisions in the construction permit to ensure CPAI complies with key assumptions of their ambient demonstration. These conditions are summarized below:

1. Limit the maximum sulfur content of diesel fuel to 0.11 percent, by weight;
2. Limit the maximum H₂S content of fuel gas to 200 ppmv; and
3. Limit the annual operation as requested in Tables 3-1 through 3-5 of the January 2004 application except for the generator limits that was revised.

5.0 PERMIT ADMINISTRATION

This section contains a summary of the rationale for permit conditions and summarizes construction permitting procedures.

5.1 Permit Terms and Conditions

The stationary source operates under Operating Permit No. 489TVP01. This construction permit contains terms and conditions under which CPAI is authorized to the new emission units at the stationary source.

Standard conditions applicable to operating and construction permits are already listed in the operating permit 489TV01 for this source. With the exception of the assessable emission standard condition, this project does not trigger any changes to these conditions so they are not included in this construction permit. The assessable emissions will change somewhat, the department will address this in the revision to the operating permit after the construction permit is issued.

5.2 Permitting Procedures

The department's Compliance Assurance Group has oversight for all reports, surveillance, records, and inspections of permitted facilities. Therefore, all plans, reports, except excess emission reports, and notices required under this permit should be submitted to the Group's Fairbanks Office, as provided for in the section for "General Recordkeeping, Reporting, and Compliance Certification Requirements," of Operating Permit No. 489TVP01.

The terms and conditions of this permit do not preclude any action by the state or EPA, or the Federal Land Manager to mitigate any material violation of the permit, or the mitigation of any secondary effect of the emissions from the stationary source.

5.3 Project Consistency with Alaska Coastal Management Plan (ACMP)

The ADP is located within the North Slope Borough coastal district per the department's desk manual. Therefore the project needs to be reviewed under the ACMP. CPAI submitted a Coastal Project Questionnaire (CPQ) with the permit application. The CPQ identified that CPAI requires approvals from the Department of Natural Resource and US Federal Agencies. Since the CPQ identifies that this project modification requires authorization from resource agencies other than the Alaska Department of Environmental Conservation, the Office of Project Management and Permitting (OPMP) coordinated the consistency determination found that the project is consistent with the ACMP. The final consistency determination was issued under ID No. AK 0402-02OG on September 23, 2004.

EXHIBIT A: CPAI's LETTER DETAILING CD3/CD4 BACT APPLICABILITY



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April 8, 2004

Sent Certified Mail
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7002 3150 0001 2330 9594

Ms. Sally Ryan
Acting Supervisor, Air Construction Permits
Alaska Department of Environmental Conservation
410 Willoughby Avenue
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Re: BACT Applicability to CD3/CD4 Satellite Permit Application
Alpine Central Processing Facility
ConocoPhillips Alaska, Inc.

Dear Ms. Siddeek:

ConocoPhillips Alaska, Inc. (CPAI) submitted a permit application and application amendments for the Alpine CD3/CD4 Satellite Project ("Satellite Project") in July 2001, and March 2002 and January 2004, respectively. The Alaska Department of Environmental Conservation ("ADEC") stated in its letter of 16 March 2004 that the Satellite Project should be linked to the Alpine Solar Taurus PSD project. The Satellite Project would have to go through Best Available Control Technology (BACT) review as a result.

CPAI respectfully disagrees for the reasons set forth below. ADEC should continue processing these projects separately, with issuance of a PSD permit for the Solar Taurus turbine project and a "minor" permit for the Satellite Project.

At issue is whether installation of Solar Taurus turbines at Alpine to upgrade the power generation system is sufficiently connected with construction of two new satellite production pads (CD3 and CD-4) to require aggregation of these projects and subject the Satellite Project to BACT. CPAI first filed an application for an air quality construction permit for the Satellite Project in July 2001. This application has been amended several times and issuance of a permit is pending, with construction expected to begin in 2005-2006. The application demonstrated that the project was not "major" and that it otherwise complied with all ADEC requirements.

The Solar Taurus turbine project involves replacement of four diesel internal combustion (IC) engines with two new state-of-the-art Solar Taurus gas turbines. This project is wholly independent of the Alpine Satellite Project and is solely the result of a history of problems with existing Alpine power production equipment. The purpose of the Solar Taurus project is to enhance the service and improve reliability of emergency power generation equipment. CPAI submitted an application to ADEC on 25 February 2004 for the Solar Taurus project as a "major modification" subject to the PSD permitting program.

EPA has published guidance to determine whether two projects should be considered together for purposes of air quality construction permitting.² EPA's criteria are repeated below followed by CPAI's views in **bold print**:

1. Filing of more than one minor source or minor modification application associated with emissions increases at a single plant within a short time period.

If a source files more than one minor source permit application simultaneously or within a short time period of each other, this may constitute strong evidence of an intent to circumvent the requirements of preconstruction review. Authorities should scrutinize applications that relate to the same process or units that the source files either before initial operation of the unit or after less than a year of operation.

The Satellite Project and the Solar Taurus turbine project are on completely different schedules and their respective emissions increases will be separated by significant time. CPAI submitted the original permit application for the Satellite Project nearly three years before the application for the Solar Taurus turbines. Emissions associated with the Satellite Project will occur one or more years after the Solar Taurus turbines are operating. This significant difference in time compels ADEC to find that these projects are separate for purposes of construction permitting.

2. Application of funding.

Applications for commercial loans or, for public utilities, bond issues, should be scrutinized to see if the source has treated the projects as one modification for financial

² EPA Memorandum, Applicability of New Source Review Circumvention Guidance to 3M - Maplewood, Minnesota, from John B. Rasnic, Director Stationary Source Compliance Division to George T. Czerniak, Chief Air Enforcement Branch Region V, undated, available at <http://www.epa.gov/Region7/programs/artd/air/nsr/nsrmemos/maplwood.pdf>.

purposes. If the project would not be funded or if it would not be economically viable if operated on an extended basis (at least a year) without the other projects, this should be considered evidence of circumvention.

These projects are economically distinct. The funding and approval process for the Satellite Project was started a few years in advance of the more recently conceived Solar Taurus turbine project. The funding for each of the projects is entirely separate from the other. The purposes of the two projects are wholly unrelated. Replacement of the problematic existing emergency electric generating equipment would be necessary even without the Satellite Project. The Solar Taurus project is necessary to support existing Alpine operations.

3. Reports of consumer demand and projected production levels.

Stockholder reports, reports to the Securities and Exchange Commission, utility board reports, or business permit applications should be reviewed for projected operation or production levels. If reported levels are necessary to meet projected consumer demand but are higher than permitted levels, this is additional evidence of circumvention.

The Solar Taurus project is not related to increased demand or projected production levels, but is intended to remedy service limitations and reliability issues of current electrical generating equipment. The Satellite Project is of course intended to develop new production wells, but the Solar Taurus project will occur independently of any projected production from those drill sites.

4. Statements of authorized representatives of the source regarding plans for operation.

Statements by representatives of the source to EPA or to State or local permitting agencies about the source's plans for operation can be evidence to show intent to circumvent preconstruction review requirements.

CPAI's statements regarding these projects support and are consistent with this letter. Additional project information is provided in the attachment to this letter.

5. EPA's own analysis of the economic realities of the projects considered together.

EPA may determine that it is reasonable to expect that company management would coordinate the planning and execution of projects considering their intrinsic relationship with each other (physical proximity, stages of production process, etc.) and their impact on economic viability of the plant (scheduling down time in light of production targets, economies of scale, etc.).

It would not be reasonable for a regulatory agency to conclude that these projects are related. It is obvious that CPAI planned and is executing these projects entirely separate from each other. Other than they are both located in the Colville River Development, they have no intrinsic relationship.

There are practical issues for ADEC to consider as well. The only difference that considering these two projects as a single "Major Modification" could possibly have would be determination of BACT for the production heaters at the Satellite Project. CPAI believes these heaters will be more than sufficient to meet BACT. Thus, a permitting process to formally establish BACT and issue a major source permit for these minor sources would have no significant environmental benefit, but would incur significant costs and delays associated with the permitting process. The costs to both ADEC and CPAI for undertaking an unnecessary extra permitting step are not justified.

The EPA guidance was intended to address the situation where a facility avoids obligations through "sham" permitting as a minor source. Sham permitting is particularly a concern where the source takes a limit to avoid PSD, and then later exceeds that limit. CPAI is not intending to avoid any obligations, is not taking any limits to avoid PSD, and has met the obligation to model ambient air quality impacts from both of these projects. Thus, the circumstances that EPA was protecting against do not appear relevant in this situation.

In addition to the reasons state above, CPAI is also providing further information in the Attachment that shows why these two projects should be permitted separately.

CPAI urges ADEC to reconsider its previously expressed view that these two projects must be combined as a Major Modification and that BACT should apply to the proposed production heaters at CD3 and CD4.

If you have any questions concerning this letter, please call me at the above number or call Randy Poteet at 907-263-4741.

Sincerely,

Bruce St. Pierre
Sr. Environmental Coordinator

bcc: ALP Env Coord ALP 14
 R. Buckendorf ATO 2004
 M. Erwin ATO 1748
 S. Findlay ATO 1904
 R. Poteet ATO 1970
 J. Christopher RETEC
 S. Duggins SECOR
 D. Morrison Environmental Law NW
 Alpine File/ PC Docs

ATTACHMENT

Summarized below are the various reasons ConocoPhillips has submitted separate permit applications for the Solar Taurus turbine installation and the Satellite expansion project. CPAI recognizes both projects are related geographically and to some extent, chronologically, however they represent separate and distinct scopes of work that are clearly independent of each other. Either project would be pursued without regard to approval of the other's permit.

Solar Turbine Permit Application

Alpine power is provided onsite without support from other North Slope power grids. Installation of the Solar turbines will replace the originally purchased emergency stand-by diesel generators which have proven unfit for service during 3 years of duty at Alpine. Emergency generators at Alpine are referred to as 'Black Start Generators' since they are employed when the primary turbine generator is offline and the facility is black. The emergency units are fired on diesel and are not dependent on high-pressure gas. The original units are Cummins-Wartsilla Model QWF 16V170's, 1380 Volt, 2 MW generators, whose performance has not been reliable. A recent review of their maintenance history shows that 1.5 hrs of maintenance is required for each run-hour.

Rather than simply replace the current units with dual 2 MW diesel-driven generators, they will be replaced with dual 6 MW gas-driven turbines. One unit will be fired only on gas, and the other unit will be dual-fuel fired. Reasons for investing in larger turbine generators include:

1. The core infrastructure power requirements of the Alpine facility significantly exceed 4 MW. A long term Power Study conducted by Parsons Engineering in 3Qtr 2003 reviewed current and projected power needs for the facility. At start-up, the core infrastructure requirements were 4 MW. Expansions, including the new camp dorm wings, shop and warehouse have increased core camp power requirements, which are projected in the study to reach 7 MW following completion of the ACX expansion in 2005. This growth alone justifies a minimum of an additional 2-4 MW diesel generator even without considering the current condition of our equipment.
2. The Alpine Title V Operating permit restricts the emergency diesel engines to a maximum of 500 operating hours per year and 16 hours in any single day. Replacement with new turbine-driven emergency units will allow additional operating hours per year. In addition to providing unrestricted emergency power, replacement with cleaner-burning gas-driven turbines will allow the new units to provide power 24 hours per day, year round when the primary or secondary units are idled for repairs or maintenance. Also, current permit limits for diesel-driven equipment do not provide the option to use them in support of oil production. Running both Solar Taurus emergency turbines will provide 11 MW to replace the 10 MW of PGT-10 power when it is out of service for maintenance or repairs.

Additionally, the 11 MW from the Solar Taurus turbines combined with the 10 MW from the PGT-10's will provide 21 MW to support the 25 MW Frame 5 when it is down for repairs or maintenance.

3. The twin dedicated camp maintenance generators (Betty & Wilma) are high maintenance units limited by air permit to 200 hours of annual operation. The Solar turbines provide sufficient power to allow removal of these outdated diesel-fueled generators.

Justification for the emergency generator replacement was based solely on downtime improvements and maintenance savings associated with production from the Alpine Oil Pool. Additional satellite production was not included in the project justification.

The original expectations for replacement of the emergency power generators assumed replacement in 2005. To support the replacement, a Power Study was commissioned by Parsons Engineering in Pasadena, California in 2003. The Power Study confirmed the base infrastructure power needs and recommended Solar turbines and conventional diesel generators as preferred alternatives. During early conversations with Solar, CPAI learned of a cancellation regarding two Taurus generator sets very similar to the units we were planning to install that would be available in March 2004. This timing fit the 2004 ice road delivery window and addressed concerns regarding our primary power system that came to light in October 2003. This 2004 delivery accelerated the submission of Taurus permit applications into early 2004, which happened to overlap the Satellite Project permit timing.

Satellite Project Construction Permit Application

Construction of the Alpine satellites (CD3 and CD4) is planned to begin in early 2005, with placement of gravel followed by construction in early 2006 of on-pad facilities, and start-up in 2006. Permitting for this project is following a more routine schedule preceding project construction. Satellite expansion is an extension of the current Environmental Impact Statement (EIS) that is reviewing expansion by ConocoPhillips into the National Petroleum Reserve Alaska (NPRa). We anticipate final approval of the EIS in the 3rd Qtr of 2004, and air permit approval is part of the long-range development plan.

The Alpine Central Processing Facility will provide power for the CD3 and CD4 satellites. The current Frame 5 (E1) and PGT-10 (E2) are fully capable of powering both new satellites. As outlined in the Parsons Power Study, there is no need for additional power expansion to support these satellites.

A summary of forecasted loads per the Power Study is shown below.

Item	Load @-50°F MW	Load @+60°F MW
Existing plant demand w/o the Doyon 19 Rig	22.9	18.2
ACX1 Demand – 2004 Project	5.9	5.7
ACX2 Demand – 2004-5 Project	0.7	0.7
Additional Alpine infrastructure Demand	1.8	1.1
Drilling Rig	5.4	5.4
CD3	0.8	0.2
CD4	0.5	0.1
Electrical Losses	0.7	0.5
Total	38.7	31.9

Power generation capacity from the Alpine power train is shown below. This data is based on the 1998 Alpine PSD permit application and vendor data sheets.

Item	Load @-40°F MW	Load @+60°F MW
Primary Generator E1 – Frame 5	31.2	26.3
Secondary Generator E2 – PGT10	14.7	11.3
Total	45.9	37.6

Power demand peaks in the Arctic during winter months as building heating and heat trace requirements dictate. Fortunately, as the above power generation table shows, turbine output increases as temperatures drop, allowing Alpine's generation capacity to keep pace with the demand swings. The Solar turbines will remain in emergency reserve or as standby power during maintenance periods for the foreseeable future, even with expansion to CD3 and CD4.

In summary, the Solar Taurus turbine installation will occur at Alpine for the following reasons:

- The current emergency generators are not reliable and require excessive maintenance.
- The current emergency generators are limited in both service hours and service, as they cannot support plant demand and do not provide sufficient capacity to meet the expanded infrastructure demand.

The Satellite Project expansion will occur apart from the Solar turbine installation and is not reliant on the Solar turbines for power generation. Neither of the projects internal funding documents requires support from the other.

EXHIBIT B: EMISSION CALCULATIONS FOR PROPOSED NEW UNITS

Unit	Heat Input	Hours of Operation	Emissions									
			NO _x		CO		SO ₂		PM-10		VOC	
			Emission factor	tpy	Emission factor	tpy	Emission factor	tpy	Emission factor	tpy	Emission factor	tpy
CD3-H	20 MMBtu/hr	8,760 hrs	0.1 lb/MMBtu ¹	8.76	0.1 lb/MMBtu ¹	8.76	33.7 lb/MMscf ²	2.13	7.6 lb/MMscf ³	0.65	0.01 lb/MMBtu ¹	0.88
CD4-H	20 MMBtu/hr	8,760 hrs	0.1 lb/MMBtu ¹	8.76	0.1 lb/MMBtu ¹	8.76	33.7 lb/MMscf ²	2.13	7.6 lb/MMscf ³	0.65	0.01 lb/MMBtu ¹	0.88
CD3 IC generator	600 ekW (632 kW)	2,000 hrs	0.024 lb/hp-hr ³	20.34	0.00668 lb/hp-hr ³	4.66	14.9 lb/kgal ²	0.68	0.0007 lb/hp-hr ³	0.59	0.000705 lb/hp-hr ³	0.60
Storage Tanks	N/A											0.02 ⁴
Portable Storage Tanks (ORL)	N/A											35.0
Total				37.92		22.18		4.94		1.89		37.38

¹ Manufacturer guaranteed emission factors for existing 20 MMBtu/hr heaters. CD3 and CD4 heaters will be similar to or smaller than the existing CD2 production heater. Results of source tests on the existing heaters indicated 0.069 lb/MMBtu for NO_x and 0.003 lb/MMBtu for CO, well below the emission factors presented for the CD3 and CD4 heaters.

² From mass balance calculations for
 liquid fired - $(0.11 \text{ lb-S}/100 \text{ lb-fuel}) \times (6.76 \text{ lb-fuel}/\text{gal-fuel}) \times (2 \text{ lb-SO}_2/\text{lb-S}) = 0.0149 \text{ lb SO}_2/\text{gal fuel}$
 gas fired - $(200 \text{ parts-S}/\text{million parts-fuel gas}) \times (\text{lb mol-S}/379.4 \text{ scf-S}) \times (\text{lb mol-SO}_2/\text{lb mol-S}) \times (64 \text{ lb-SO}_2/\text{lb mol-SO}_2) = 33.7 \text{ lb SO}_2/\text{MMscf}$

³ AP-42 emission factors - Table 1.4-2 for gas fired heaters and Table 3.4-1 for generators larger than 600 hp.

⁴ Emissions predicted using EPA's TANKS 4.09 for the methanol tank, arctic heating fuel tank and the hydrocarbon recycle tank at CD3.

EXHIBIT C: ADEC REVISED MODELING MEMORANDUM

MEMORANDUM

State of Alaska
Department of Environmental Conservation
Division of Air Quality

TO: File

DATE: November 23, 2004

THRU: Jeanette Brena
Construction Permits, Acting Supervisor
Air Permits Program

FILE NO.: X209 – Modeling

PHONE: 465-5100
FAX: 465-5129

FROM: Alan Schuler
Environmental Engineer
Air Permits Program

SUBJECT: Revised Review of Alpine CD-3
Ambient Assessment

This memorandum summarizes the Department's findings regarding the revised ambient assessment submitted by ConocoPhillips Alaska, Inc. (CPAI) for the Alpine CD-3 satellite pad. CPAI submitted the revised assessment in support of a November 17, 2004 letter revising their air quality control construction permit application.³ As described in this memorandum, CPAI's analysis adequately shows that operating their emission units within the requested constraints will not cause or contribute to a violation of the Alaska Ambient Air Quality Standards (AAAQS) provided in 18 AAC 50.010, or the maximum allowable increases (increments) listed in 18 AAC 50.020.⁴

The Department previously approved the ambient demonstration that CPAI submitted in support of their original permit application for the CD-3 and CD-4 satellite pads. The Department's original findings are documented in my April 14, 2004 memorandum, "Review of Alpine CD-3/4 Ambient Assessment." Today's memorandum addresses only the revisions that CPAI has submitted for CD-3 subsequent to my April 14th memorandum. CPAI is not revising their application or ambient assessment for CD-4.

BACKGROUND/COMMENTS

CPAI submitted the original ambient assessment in January 2004. The original emission unit inventory included a 250 kilowatt (kW) emergency generator at CD-3. CPAI also requested a 4,000 hour per year limit for this unit.

CPAI is now planning to install a 600 kW unit with a 2,000 hour per year limit. CPAI submitted a revised analysis for CD-3 using the updated emission inventory. They also included the missing units noted under the "Modeled Source Groups" section of my April memorandum.

³ The Department received CPAI's November 17, 2004 letter on November 22, 2004, and the associated modeling files via electronic mail on November 16, 2004 and November 23, 2004.

⁴ Alaska's air quality permit program and associated regulations underwent a major revision that became effective October 1, 2004. Applicants who submitted a complete permit application prior to this date have the option of having their applications processed under either the "new" or "old" program. Per CPAI's request, the Department is processing the CD-3 application and modeling analysis under the old program/regulations.

CPAI submitted the modeling files associated with this change via electronic mail (e-mail) on November 16, 2004.⁵ In response to Department comments, CPAI submitted a revised PM-10 assessment via e-mail on November 23, 2004.

RESULTS AND DISCUSSION

The revised maximum AAAQS impacts near CD-3 during diesel-fired drilling and during high-line drilling are shown in Tables 1 and 2, respectively. The background concentrations, total impacts, and ambient standards (AAAQS) are also shown. All of the total impacts are less than the applicable AAAQS. Therefore, CPAI has demonstrated compliance with the AAAQS at CD3.

**Table 1 – Maximum AAAQS Impacts
Near CD3 During Diesel-fired Drilling**

Air Pollutant	Avg. Period	Maximum Modeled Conc ($\mu\text{g}/\text{m}^3$)	Bkgd Conc ($\mu\text{g}/\text{m}^3$)	TOTAL IMPACT: Max conc plus bkgd ($\mu\text{g}/\text{m}^3$)	Ambient Standard ($\mu\text{g}/\text{m}^3$)
NO ₂	Annual (h1h)	42.3	17.1	59	100
SO ₂	3-hr (h2h)	228	9.6	238	1,300
	24-hr (h2h)	136	6.3	142	365
	Annual (h1h)	5.9	0.52	6	80
PM-10	24-hr (h6h)	49.7	33.6	83	150
	Annual (h1h)	1.1	8.5	10	50
CO	1-hr (h2h)	2,240	1,150	3,390	10,000
	8-hr (h2h)	704	575	1,282	40,000

**Table 2 – Maximum AAAQS Impacts
Near CD3 During High-line Drilling**

Air Pollutant	Avg. Period	Maximum Modeled Conc ($\mu\text{g}/\text{m}^3$)	Bkgd Conc ($\mu\text{g}/\text{m}^3$)	TOTAL IMPACT: Max conc plus bkgd ($\mu\text{g}/\text{m}^3$)	Ambient Standard ($\mu\text{g}/\text{m}^3$)
NO ₂	Annual (h1h)	28.2	17.1	45	100
SO ₂	3-hr (h2h)	166	9.6	176	1,300
	24-hr (h2h)	99.7	6.3	106	365
	Annual (h1h)	8.4	0.52	9	80
PM-10	24-hr (h6h)	47.6	33.6	81	150
	Annual (h1h)	1.5	8.5	10	50
CO	1-hr (h2h)	2,240	1,150	3,390	10,000
	8-hr (h2h)	755	575	1,330	40,000

⁵ CPAI verbally notified the Department of the revision prior to submitting the November 17th letter.

The revised maximum increment impacts near CD-3 during diesel-fired drilling and during high-line drilling are shown in Tables 3 and 4, respectively. The Class II increment standards are also shown. All of the maximum impacts are less than the applicable Class II increments.

**Table 3 - Maximum Increment Impacts
Near CD-3 During Diesel-fired Drilling**

Air Pollutant	Avg. Period	Maximum Modeled Conc. ($\mu\text{g}/\text{m}^3$)	Class II Increment Standard ($\mu\text{g}/\text{m}^3$)
NO ₂	Annual (h1h)	16	25
SO ₂	3-hr (h2h)	166	512
	24-hr (h2h)	56	91
	Annual (h1h)	1	20
PM-10	24-hr (h2h)	26	30
	Annual (h1h)	0.4	17

**Table 4 - Maximum Increment Impacts
Near CD-3 During High-line Drilling**

Air Pollutant	Avg. Period	Maximum Modeled Conc. ($\mu\text{g}/\text{m}^3$)	Class II Increment Standard ($\mu\text{g}/\text{m}^3$)
NO ₂	Annual (h1h)	19	25
SO ₂	3-hr (h2h)	166	512
	24-hr (h2h)	82	91
	Annual (h1h)	8	20
PM-10	24-hr (h2h)	26	30
	Annual (h1h)	1	17

CONCLUSION

The conclusions and recommended permit conditions listed in my April 14, 2004 memorandum are still valid, except the limit for the emergency generator at CD-3 should now be 2,000 hours per 12-month rolling period. Please see that memorandum for details.

AES\cmd

EXHIBIT D: ADEC MODELING MEMORANDUM

MEMORANDUM

State of Alaska
Department of Environmental Conservation
Division of Air Quality

TO:	File	DATE:	April 14, 2004
THRU:	Sally Ryan Construction Permits, Acting Supervisor Air Permits Program	FILE NO.:	X209 – Modeling
		PHONE:	465-5100
		FAX:	465-5129
FROM:	Alan Schuler, P.E. Environmental Engineer Air Permits Program	SUBJECT:	Review of Alpine CD-3/4 Ambient Assessment

As required under 18 AAC 50.315(b)(1)(A), this memorandum summarizes the Department's findings regarding the ambient assessment submitted by ConocoPhillips Alaska, Inc. (CPAI) for the Alpine Satellite Project. CPAI submitted the assessment in January 2004 in support of their July 2001 construction permit application to develop the Alpine satellite pads, CD3 and CD4. CPAI's project is not subject to review under the State's Prevention of Significant Deterioration (PSD) program. As described in this memorandum, CPAI's analysis adequately shows that operating their emission units within the requested constraints will not cause or contribute to a violation of the Alaska Ambient Air Quality Standards (AAAQS) provided in 18 AAC 50.010, or the maximum allowable increases (increments) listed in 18 AAC 50.020.

BACKGROUND

Alpine is an existing stationary source located within the Colville River Unit of Alaska's North Slope. The source currently consists of two pads: CD1 (which includes wells and the processing facility) and CD2 (a satellite pad located approximately 5 kilometers west-southwest of CD1). Alpine is currently classified under 18 AAC 50.300(c) as a PSD Major Stationary Source. CPAI is operating Alpine under Air Quality Control Operating Permit No. 489TVP01 and Air Quality Control Construction Permit No. 489CP08.

CPAI is planning to expand Alpine by adding two new well pads. CD3 (previously known as CD-North) will be located 8.5 kilometers (km) north of CD1 on the northern extent of the Colville River Delta. CD4 (previously known as CD-South) will be located 6 km south of CD1, approximately halfway between CD1 and Nuiqsut. CPAI is planning to install a 20 MMBtu/hr gas-fired heater at both CD3 and CD4, and a 250 kilowatt emergency generator at CD3. They also plan to conduct temporary drilling operations and well-servicing operations.

CPAI's project is classified under 18 AAC 50.300(h)(2) since it will increase their allowable oxides of nitrogen (NO_x), sulfur dioxide (SO₂), particulate matter (PM-10), carbon monoxide (CO), and volatile organic compound (VOC) emissions. Modifications classified under 18 AAC 50.300(h)(2) must have an ambient nitrogen dioxide (NO₂), SO₂ and PM-10 demonstration per 18 AAC 50.310(n)(2) if there is an increase in allowable emissions for those pollutants.

Therefore, CPAI is required under 18 AAC 50.310(n)(2) to assess the proposed ambient NO₂, SO₂ and PM-10 impacts. CPAI also modeled the ambient CO impacts. The Department did not find any reason to ask CPAI to assess the VOC impacts under the discretionary provision contained in 18 AAC 50.310(c)(5).

CPAI submitted a modeling protocol for the satellite development project on March 30, 2001.⁶ The Department approved the protocol, with comments, on April 27, 2001. CPAI submitted a construction permit application and modeling analysis on July 2001. The Department provided comments regarding the modeling analysis during fall of 2001. On November 7, 2002, CPAI asked the Department to suspend work on the application for unrelated reasons.

On August 4, 2003, CPAI submitted an updated modeling protocol. The protocol incorporated revised operating scenarios and recent Department guidance regarding well servicing equipment. The Department approved CPAI's revised protocol, with comment, on September 10, 2003. CPAI submitted a revised modeling analysis and application on January 20, 2004.

The Department has approved several ambient assessments associated with Alpine. CPAI used the same basic modeling approach as used in previous submittals. Therefore, this memorandum only addresses those items that have changed or that otherwise warrant discussion. Additional details may be found in CPAI's submittals and past review documents.⁷

APPROACH

CPAI used computer analysis (modeling) to predict the ambient NO₂, SO₂, PM-10 and CO air quality impacts. SECOR International Incorporated (SECOR) conducted the analysis on behalf of CPAI.

CPAI and the Department expected the largest impacts from the proposed emission units to occur in the immediate vicinity of the stationary source. CD3 and CD4 are located 14.5 km apart. This distance is too large to easily conduct a simultaneous near-field assessment at both locations. Therefore, CPAI submitted a separate set of runs for each pad.

The Department also asked CPAI to demonstrate that the proposed impacts would not cause or contribute to violations at CD1, CD2 and Nuiqsut. Therefore, CPAI also conducted a significant impact level (SIL) assessment at those locations.

CPAI plans to use a drill rig primarily powered by diesel-fired generators for the initial drilling. However, they intend to switch to "high-line" power within 24 months of startup. Therefore, CPAI modeled a "preliminary construction" scenario, and a "highline power" scenario. Emissions associated with temporary construction activities do not consume increment per 18 AAC 50.215(b)(2)(A). "Temporary construction activity" is defined in 18 AAC 50.990(2) as construction that is completed in 24 months of startup. Since CPAI will be switching to high-

⁶ The 2001 modeling protocol and analysis was actually submitted by CPAI's predecessor, Phillips Alaska Incorporated.

⁷ The Department's past review documents include: *Review of the ConocoPhillips Alpine Ambient Assessment* (Memorandum from Alan Schuler to File, September 12, 2003); *Revised Alpine Modeling Results* (Memorandum from Alan Schuler to File, January 22, 2001); *Alpine PGT10 Modeling Analysis* (Memorandum from Alan Schuler to Robert Cannone, December 21, 2000); *Review of Alpine X103 Modeling analysis* (Memorandum from Alan Schuler to File, December 15, 2000); *Preliminary Technical Analysis Report* (TAR) for permit 0073-AC009 (May 16, 2000); TAR for permit 9973-AC017 (January 20, 2000); and TAR for permit 9873-AC003 (February 1, 1999).

line power within 24 months of startup, the Department did not require CPAI to include emission activities that only occur during the preliminary construction scenario in the increment analysis. CPAI utilized the Department's *Intermittently Used Oilfield Support Equipment* (Guidance No. AWQ 03-016, January 7, 2003) and *Construction Phase Air Emissions at Oil Fields* (Guidance No. AWQ 03-017, January 7, 2003) guidance in their analysis. The Department noted in these documents that current air quality models were not designed for estimating ambient impacts from small, intermittent, portable emission units, and that a better way to manage the impacts from these units is through the use of "cleaner" diesel fuel. Therefore, the Department is allowing applicants to exclude oil field support and construction equipment rated at less than 400 horsepower (or an equivalent heater rating) from the AAAQS analyses, if they agree to use fuel that essentially meets the Guidance's fuel sulfur limits when operating those units. AWQ 03-016 and 03-017 have a phased reduction in the maximum sulfur limit. The maximum fuel sulfur content is: 1000 ppm (0.10 percent) through 2006, 500 ppm from 2007 through 2009, and 15 ppm starting in 2010. The Department is also allowing applicants to exclude oil field support equipment from increment analyses due to their portable nature and infrequent use.

CPAI is requesting a maximum fuel sulfur content of 0.11 percent, by weight. This is adequate for purposes of invoking Guidance No. AWQ 03-016 and 03-017. Therefore, the Department did not require CPAI to include intermittent, portable units rated at less than 400 horsepower (or equivalent) in their AAAQS analysis. The Department also allowed CPAI to exclude all oil field support equipment from the increment analyses.

Model Selection

CPAI used the U.S. Environmental Protection Agency's (EPA) *Industrial Source Complex Short-Term 3 (ISCST3)* model for the ambient analysis. ISCST3 is an appropriate model for this analysis. CPAI used the current version of ISCST3 (version 02035).⁸

Meteorological Data

ISCST3 requires hourly meteorological data to estimate plume dispersion. According to EPA's *Guideline on Air Quality Models*, five years of representative data should be used (when available) to account for year-to-year variation.

CPAI used two different surface meteorological data sets in order to compile a five year data set. The first data set consists of two years of surface meteorological data collected at drill site 1F (DS-1F) of the Kuparuk River Unit (KRU). DS-1F is located 47 km east-southeast of Alpine CD1. CPAI collected these data from November 1990 to October 1992. CPAI supplemented the DS-1F data with three years of surface meteorological data collected at their Nuiqsut monitoring station. The Nuiqsut monitoring station is located 14 km south of CD-1. The data were collected from January 2000 to December 2002. CPAI used concurrent upper air data from the nearest available source, the National Weather Service station at Barrow. The Department accepts the use of DS-1F and Nuiqsut surface data, and Barrow upper air data for this analysis.

⁸ In many recent applications, SECOR has modified ISCST3 to better account for horizontal/capped stacks. SECOR *did not* use their modified version for this application. They instead used EPA's release of ISCST3.

Ambient Air Boundary and Receptor Grid

CPAI used the pad edge as the ambient air boundary. The receptor grid had the following density:

- 25-meter spacing along the pad edge,
- 25-meter resolution from pad edge outward to at least 100 meters, and
- 100-meter resolution from the 25-meter grid outward to 1 km in each cardinal direction.

CPAI also placed single “sensitive” receptors at the Nuiqsut ambient air quality monitoring station, CD1 and CD2. CPAI’s ambient air boundary and receptor grids are appropriate and adequate.

Emission Rates and Stack Parameters

The assumed stack parameters play significant roles in an ambient demonstration. Therefore, the Department reviewed these parameters to ensure they are appropriate.

CPAI used the same previously accepted emission rates and stack parameters for the CD1, CD2 and off-site emission units. They also used the same stack parameters as previously accepted for the Doyon 19 drilling operations at CD3 and CD4. The modeled emission rates for the proposed operations are correct and consistent with the requested operating limits. The Department also accepts the modeled stack parameters for the proposed units.

Modeled Source Groups

CPAI used the Source Group feature of ISCST3 in order to estimate multiple scenarios (e.g., AAAQS and increment impacts) within a single run. This is a typical approach used by modelers to reduce the number of files, total run time, and overall effort.

The Department reviewed the Source Group cards to ensure CPAI included the appropriate emission units for each scenario. The Department found several minor errors, which are described below.

- 1) CPAI is proposing to operate the drill rig at CD4 during the summer and CD3 during the winter. However, the source groups for the annual average assessments at CD4 only included drill rig operation at CD4. They did not include the drill rig operation that occurs during the rest of the year at CD3. The source groups for the annual average assessments at CD3 had similar errors in that they did not include drill rig operation at CD4.
- 2) Due to typographical errors, the CD4 analysis did not include the CD3 Production Heater, and the CD3 analysis did not include the CD4 Production Heater.
- 3) In the highline NO₂ AAAQS run, CPAI modeled the rig camp engines using the diesel-fired limitations rather than the more restrictive highline limitations. This oversight made the NO₂ AAAQS analysis conservative.

The errors described in items 1) and 2) regard far-field emission units which have small impacts in the maximum impact areas. Nevertheless, the Department corrected the errors and reran the CD4 NO₂ analysis to make sure CPAI’s proposed limitations protected the NO₂ increment. The Department also corrected these errors in the annual average NO₂, short-term SO₂, and short-

term PM-10 SIL assessments. The revised impacts only varied from CPAI's impacts in the third to fourth significant digit, which is inconsequential.

Ambient NO₂ Modeling

The modeling of ambient NO₂ concentrations can sometimes be refined through the use of ambient air data or assumptions. CPAI used the national default ambient NO₂-to-NO_x ratio of 0.75, as provided in EPA's *Guideline on Air Quality Models*, to refine the estimated ambient NO₂ concentrations. The 0.75 ratio is appropriate for this analysis.

Ambient SO₂ Modeling

SO₂ emissions are directly related to the amount of sulfur in the fuel. The sulfur in fuel gas is in the form of hydrogen sulfide (H₂S). CPAI assumed the gas-fired heaters are burning gas with a H₂S content of 200 parts per million by volume (ppmv), which is the maximum currently allowed in the current Alpine air quality permits.

CPAI plans to burn diesel fuel in the emergency generator and the drill rig emission units. For these units, CPAI assumed the maximum fuel sulfur content is 0.110 percent, by weight. This is slightly more restrictive than the current permit limit of 0.135 percent, by weight. The Department will include CPAI's assumed fuel sulfur limits in the proposed air quality control construction permit.

EPA allows applicants to compare the high second-high (h2h) modeled concentration to the short-term air quality standards and increments if at least one year of temporally representative site-specific, or five years of representative off-site data, are used. In all cases, applicants must compare the high first-high (h1h) modeled concentration to the SILs, and annual average standards and increments. The Department allowed CPAI to compare the h2h modeled concentration to the short-term standards and increments since CPAI had five years of meteorological data.

Ambient PM-10 Modeling

EPA allows the 24-hour PM-10 concentration to be modeled as the highest sixth-high (h6h) concentration over a five-year meteorological period. This approach is less conservative than using the h2h concentration in any one-year, but better matches the PM-10 monitoring method upon which the standard is based. For years, the Department interpreted EPA's h6h provision as applying to both the air quality standard and the increment. However, the Department recently learned that EPA's h6h provision only applies to air quality standard demonstrations. Applicants should still compare the h2h impact to the 24-hour PM-10 increments.

CPAI stated their intention to use the h6h approach to demonstrate compliance with both the AAAQS and increments in their modeling protocol. This was a standard practice at the time. The Department was not aware of EPA's limitation regarding the h6h approach when we reviewed and approved CPAI's protocol. Therefore, the Department is continuing to allow CPAI to use the h6h approach in this application, as agreed in the modeling protocol. ***However, the Department notes that CPAI will no longer be able to use the h6h approach for demonstrating compliance with the 24-hour PM-10 increment in future submittals.***

The Department notes that none of CPAI's proposed impacts threaten the 24-hour PM-10 Class II increment. In reviewing the modeling files, the Department further notes that CPAI could have demonstrated compliance with the Class II increments even if they used the h2h value.

Downwash

Downwash refers to conditions where the plume pattern is influenced by nearby structures. Downwash can occur when a stack height is less than a height derived by a procedure called "Good Engineering Practice" (GEP), as defined in 18 AAC 50.910(43). The modeling of downwash-related impacts requires the inclusion of dimensions from nearby buildings. EPA has established specific algorithms for determining which buildings must be included and for determining the profile dimensions that would be "seen" by a given stack. They have also incorporated these algorithms in a separate computer program called the "Building Profile Input Program" (BPIP).

CPAI used BPIP (version 95086) to determine the building profiles needed by ISCST3. This is the current version of BPIP and is appropriate for this analysis.

SIL Analysis

The Department has mixed comments regarding CPAI's SIL analysis. CPAI included the existing and proposed Alpine emission units in the Nuiqsut SIL analysis. This approach went beyond the Department's request and appropriately ensures that the *total impact* from Alpine (not just the proposed project) is not causing or contributing to air quality violations in Nuiqsut.

CPAI used source groups in the SIL analysis in order to track the impacts from various locations and scenarios, with subgroups for just the increment consuming units. CPAI made the same errors regarding the source groups as previously noted. The Department corrected these errors in the annual average NO₂, 24-hour PM-10, and short-term SO₂ SIL runs, but did not find any substantive change in results.

CPAI only reported the SIL impacts from the increment consuming units in their application. CPAI used this approach since the increment consuming units also represent the long-term operations. The Department agrees that the increment scenario represents the long-term increment and AAAQS impacts. However, the Department is also responsible for ensuring that projects do not cause or contribute to violations of the AAAQS in the short-term (construction) phase. Therefore, the Department is reporting the impacts from all project/Alpine units in this memorandum, not just the increment consuming units. The values reported by the Department are larger than the values reported by CPAI, but do not change any conclusions.

Offsite-site Impacts

The ambient analysis must address potential air quality impacts from off-site sources. These impacts are typically assessed through modeling.

CPAI included the CD1 and CD2 emission units in the cumulative impact analysis and the Nuiqsut SIL analysis. CPAI also included the Nuiqsut Utility source in the cumulative impact analysis.

CPAI included the KRU sources in the NO₂ cumulative impact analysis. However, they used the “Q/d” method in their modeling protocol to adequately demonstrate that the KRU sources did not need to be included for the other pollutants. CPAI also used Q/d to demonstrate that the Milne Point Unit (MPU) sources could be excluded from the off-site analysis (for all pollutants).

The Q/d method compares an off-site source’s ton per year emission rate (Q) with distance (d) in kilometers. If the Q/d ratio is less than 20, then the off-site source should be included in the ambient analysis. If the Q/d ratio is less than 20, then the off-site source may be considered for culling. The results of the Q/d analysis will vary by pollutant and averaging period.

CPAI concurrently modeled the off-site sources with the proposed sources. This approach provides the combined impact on a receptor-by-receptor basis.

Background Concentrations

The background concentration represents impacts from sources not included in the modeling analysis. Typical examples include natural, area-wide, and long-range transport sources. The background concentration must be evaluated on a case-by-case basis for each ambient impact analysis. Once the background concentration is determined, it is added to the modeled concentration to estimate the total ambient concentration.

CPAI has been operating an air monitoring station in Nuiqsut since April 1999. Therefore, they used the maximum concentrations measured during the past three years to represent the background NO₂, SO₂ and annual average PM-10 concentrations at Alpine. For the 24-hour PM-10 concentration, CPAI used the average Nuiqsut concentration measured during “meteorological conditions of concern,” as allowed in Section 9.2 of the Guideline. Additional details regarding the 24-hour PM-10 concentration may be found in my September 12, 2003 memorandum, “Review of the ConcocoPhillips Alpine Ambient Assessment.” The Department has and is continuing to allow CPAI to use the Nuiqsut monitoring data to represent the regional background concentrations at Alpine.

CPAI is not collecting CO data at Nuiqsut, but did collect it during a 2001-2002 monitoring program at DS-1F. CPAI used the DS-1F CO data to represent the CO background concentrations at Alpine. The Department has and is continuing to accept these data as a surrogate of the background CO concentrations at Alpine.

RESULTS AND DISCUSSION

The maximum NO₂, PM-10, SO₂ and CO impacts from Alpine at Nuiqsut are shown in Table 1. The impacts include the existing CD1 and CD2 emission units, along with the proposed CD3 and CD4 emission units. The reported values are the largest h1h impact from either drilling scenario (diesel-fired drilling and highline drilling). The SIL for each pollutant and averaging period is also shown. All of the maximum impacts are less than the SIL. Therefore, CPAI has demonstrated that Alpine will not cause or contribute to a violation of the AAAQS or increment in Nuiqsut.

Table 1 - Maximum Alpine Impacts at Nuiqsut

Air Pollutant	Avg. Period	Maximum Modeled Conc ($\mu\text{g}/\text{m}^3$)	Significant Impact Level ($\mu\text{g}/\text{m}^3$)
NO ₂	Annual	0.4	1.0
SO ₂	3-hr	14	25
	24-hr	4.2	5
	Annual	0.03	1.0
PM-10	24-hr	1.7	5
	Annual	0.01	1.0
CO	1-hr	65	2,000
	8-hr	15	500

The maximum impacts at CD1 and CD2 from either drilling scenario at CD3 and CD4 are shown in Table 2. The applicable SIL is also shown. All of the maximum impacts are less than the SIL. Therefore, CPAI did not need to include a refined grid at CD1 or CD2 as part of their ambient demonstration.

Table 2 - Maximum Impacts from CD3 and CD4 at CD1 and CD2

Air Pollutant	Avg. Period	Maximum CD3 and CD4 Impact ($\mu\text{g}/\text{m}^3$)		Significant Impact Level ($\mu\text{g}/\text{m}^3$)
		At CD1	At CD2	
NO ₂	Annual	0.6	0.3	1.0
SO ₂	3-hr	17	18	25
	24-hr	4.4	4.3	5
	Annual	0.05	0.03	1.0
PM-10	24-hr	1.9	2.1	5
	Annual	0.007	0.005	1.0
CO	1-hr	79	80	2,000
	8-hr	13	14	500

The maximum AAAQS impacts near CD3 during diesel-fired drilling and during high-line drilling are shown in Tables 3 and 4, respectively. The maximum AAAQS impacts near CD4 during diesel-fired drilling and during high-line drilling are shown in Tables 5 and 6, respectively. The background concentration, total impacts, and AAAQS are also shown in each table. All of the total impacts in each table are below the applicable AAAQS. Therefore, CPAI has demonstrated compliance with the AAAQS at CD3 and at CD4.

**Table 3 – Maximum AAAQS Impacts
Near CD3 During Diesel-fired Drilling**

Air Pollutant	Avg. Period	Maximum Modeled Conc ($\mu\text{g}/\text{m}^3$)	Bkgd Conc ($\mu\text{g}/\text{m}^3$)	TOTAL IMPACT: Max conc plus bkgd ($\mu\text{g}/\text{m}^3$)	Ambient Standard ($\mu\text{g}/\text{m}^3$)
NO ₂	Annual	44.9	17.1	62	100
SO ₂	3-hr	227.1	9.6	237	1,300
	24-hr	135.6	6.3	142	365
	Annual	5.9	0.52	6	80
PM-10	24-hr	49.5	33.6	83	150
	Annual	1.2	8.5	10	50
CO	1-hr	2,240	1,150	3,390	10,000
	8-hr	646	575	1,221	40,000

**Table 4 – Maximum AAAQS Impacts
Near CD3 During High-line Drilling**

Air Pollutant	Avg. Period	Maximum Modeled Conc ($\mu\text{g}/\text{m}^3$)	Bkgd Conc ($\mu\text{g}/\text{m}^3$)	TOTAL IMPACT: Max conc plus bkgd ($\mu\text{g}/\text{m}^3$)	Ambient Standard ($\mu\text{g}/\text{m}^3$)
NO ₂	Annual	30.5	17.1	48	100
SO ₂	3-hr	167.2	9.6	177	1,300
	24-hr	100.0	6.3	106	365
	Annual	8.4	0.52	9	80
PM-10	24-hr	47.5	33.6	81	150
	Annual	1.6	8.5	10	50
CO	1-hr	2,240	1,150	3,390	10,000
	8-hr	755	575	1,330	40,000

**Table 5 – Maximum AAAQS Impacts
Near CD4 During Diesel-fired Drilling**

Air Pollutant	Avg. Period	Maximum Modeled Conc ($\mu\text{g}/\text{m}^3$)	Bkgd Conc ($\mu\text{g}/\text{m}^3$)	TOTAL IMPACT: Max conc plus bkgd ($\mu\text{g}/\text{m}^3$)	Ambient Standard ($\mu\text{g}/\text{m}^3$)
NO ₂	Annual	52.0	17.1	69	100
SO ₂	3-hr	211.7	9.6	221	1,300
	24-hr	106.4	6.3	113	365
	Annual	7.4	0.52	8	80
PM-10	24-hr	53.4	33.6	87	150
	Annual	1.2	8.5	10	50
CO	1-hr	2,699	1,150	3,849	10,000
	8-hr	829	575	1,404	40,000

**Table 6 – Maximum AAAQS Impacts
Near CD4 During High-line Drilling**

Air Pollutant	Avg. Period	Maximum Modeled Conc ($\mu\text{g}/\text{m}^3$)	Bkgd Conc ($\mu\text{g}/\text{m}^3$)	TOTAL IMPACT: Max conc plus bkgd ($\mu\text{g}/\text{m}^3$)	Ambient Standard ($\mu\text{g}/\text{m}^3$)
NO ₂	Annual	28.8	17.1	46	100
SO ₂	3-hr	193.4	9.6	203	1,300
	24-hr	108.0	6.3	114	365
	Annual	9.1	0.52	10	80
PM-10	24-hr	52.1	33.6	86	150
	Annual	1.5	8.5	10	50
CO	1-hr	2,712	1,150	3,862	10,000
	8-hr	877	575	1,452	40,000

The maximum increment impacts near CD3 during diesel-fired drilling and during high-line drilling are shown in Tables 7 and 8, respectively. The maximum increment impacts near CD4 during diesel-fired drilling and during high-line drilling are shown in Tables 9 and 10, respectively. The Class II increment standards are also shown in each table. All of the maximum impacts are less than the applicable Class II standards. Therefore, CPAI has demonstrated compliance with the Class II increment standards at CD3 and at CD4.

**Table 7 - Maximum Increment Impacts
Near CD3 During Diesel-fired Drilling**

Air Pollutant	Avg. Period	Maximum Modeled Conc. ($\mu\text{g}/\text{m}^3$)	Class II Increment Standard ($\mu\text{g}/\text{m}^3$)
NO ₂	Annual	20	25
SO ₂	3-hr	166	512
	24-hr	56	91
	Annual	1	20
PM-10	24-hr	18	30
	Annual	0.5	17

**Table 8 - Maximum Increment Impacts
Near CD3 During High-line Drilling**

Air Pollutant	Avg. Period	Maximum Modeled Conc. ($\mu\text{g}/\text{m}^3$)	Class II Increment Standard ($\mu\text{g}/\text{m}^3$)
NO ₂	Annual	23	25
SO ₂	3-hr	167	512
	24-hr	82	91
	Annual	8	20
PM-10	24-hr	21	30
	Annual	1	17

**Table 9 - Maximum Increment Impacts
Near CD4 During Diesel-fired Drilling**

Air Pollutant	Avg. Period	Maximum Modeled Conc. ($\mu\text{g}/\text{m}^3$)	Class II Increment Standard ($\mu\text{g}/\text{m}^3$)
NO ₂	Annual	18	25
SO ₂	3-hr	182	512
	24-hr	66	91
	Annual	0.8	20
PM-10	24-hr	10	30
	Annual	0.3	17

**Table 10 - Maximum Increment Impacts
Near CD4 During High-line Drilling**

Air Pollutant	Avg. Period	Maximum Modeled Conc. ($\mu\text{g}/\text{m}^3$)	Class II Increment Standard ($\mu\text{g}/\text{m}^3$)
NO ₂	Annual	24.7	25
SO ₂	3-hr	193	512
	24-hr	88	91
	Annual	8	20
PM-10	24-hr	24	30
	Annual	1	17

It is important to note that since ambient concentrations vary with distance from each emission unit, the maximum values shown represent the highest value that may occur somewhere in the local airshed. They do *not* represent the highest concentration that could occur at *all* locations in the area.

CONCLUSION

The Department reviewed CPAI's modeling analysis for CD3 and CD4 and concluded the following:

1. The NO₂, SO₂, PM-10 and CO emissions associated with operating the stationary source within the requested operating limits will not cause or contribute to a violation of the ambient air quality standards provided in 18 AAC 50.010, or the maximum allowable increases (increments) provided in 18 AAC 50.020.
2. CPAI's modeling analysis fully complies with the showing requirements of 18 AAC 50.315(e)(2).
3. CPAI conducted their modeling analysis in a manner consistent with EPA's *Guideline on Air Quality Models*.

The Department has developed conditions in the air quality control construction permit to ensure compliance with the ambient air quality standards and increments. These conditions are summarized below:

4. Limit the maximum sulfur content of diesel fuel to 0.110 percent, by weight;
5. Limit the maximum H₂S content of fuel gas to 200 ppmv; and
6. Limit the annual operation as requested in Tables 3-1 through 3-5 of the application.

AES/cmd

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EXHIBIT E: COASTAL PROJECT QUESTIONNAIRE

Coastal Project Questionnaire and Certification Statement

Please answer all questions. To avoid a delay in processing, **please call the department if you answer "yes" to any of the questions related to that department.** Maps and plan drawings must be included with your packet.

An incomplete packet will be returned.

■ APPLICANT INFORMATION

1. ConocoPhillips Alaska Inc., Bruce St.Pierre _____ Name of Applicant P.O. Box 100360 _____ Address Anchorage, Alaska 99510-0360 _____ City/State _____ Zip Code _____ (907) 265-6417 _____ Daytime Phone (907) 265-1515 bruce.st.pierre@conocophillips.com _____ Fax Number _____ E-mail Address _____	2. n/a _____ Agent (or responsible party if other than applicant) Address _____ City/State _____ State _____ Zip Code _____ Zip Code _____ Daytime Phone _____ Fax Number _____ E-mail Address _____
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■ PROJECT INFORMATION

1. This activity is a: ☐ new project ☒ modification or addition to an existing project
- If a modification, do you currently have any State, federal or local approvals related to this activity? ☒ Yes ☐ No

Note: Approval means any form of authorization. If "yes," please list below:

Approval Type	Approval #	Issuance Date	Expiration Date
USACE: Section 404	2-960874	2/13/98	2/28/01
USEPA: UIC	AK-11003	2/3/99	2/3/09
ADEC:ODPCP	994-CP-4140	4/22/99	3/9/08
ADEC: Air Quality Construction	489CP07	3/4/03	N/A
ADEC: Air Quality Title V	489TVP0V		
ADEC: SWTF (G&I)	9931-BA002	2/10/99	2/28/04
ADNR: ROW Oil	ADL 415701	12/15/98	12/14/18
ADNR: ROW Diesel Line	ADL 415932	12/15/98	12/14/18
ADNR: ROW Utility	ADL 415857	12/15/98	1/5/19
ADNR: Unit Plan of Operations	LO/NS 97-07	12/22/97	Indefinite
ADNR: Miscellaneous Land Use	LAS 21122	12/12/97	11/30/04
ADNR: Temporary Water Use	A2002-26	12/16/96	5/15/03 (under renewal)
NSB Alpine Rezone	NSB 98-002	3/19/98	Indefinite

2. If a modification, has this project ever been reviewed by the State of Alaska under the ACMP? ☒ Yes ☐ No
- Previous State I.D. Number: AK9703-03OG, AK9712-04OG, AK9812-03OG _____ Previous

Project Name: Alpine Development Project

■ PROJECT DESCRIPTION

1. Provide a brief description of your entire project and ALL associated facilities and land use conversions. Attach additional sheet(s) as needed.

Refer to Section 2.0 through 7.0 of the Project Description for the five proposed drill sites. Previous ACMP reviews were conducted on the Alpine Development Project (see list of approvals listed in "Project Information" above). These five new drill sites will all produce fluids that will be sent to Alpine's Production Facility at CD1. All five drill sites will be tied to the Alpine facility via roads and/or pipelines. _____

Proposed starting date for project: 11/01/04 _____ Proposed ending date for project: 2030 _____

2. Attach the following: • a detailed description of the project, all associated facilities, and land use conversions, etc. (Be specific, including access roads, caretaker facilities, waste disposal sites, etc.); • a project timeline for completion of all major activities in the proposal; • a site plan depicting property boundary with all proposed actions; • other supporting documentation that would facilitate review of the project. Note: If the project is a modification, identify existing facilities as well as proposed changes on the site plan.

■ PROJECT LOCATION

1. Attach a copy of the topographical and vicinity map clearly indicating the location of the project. Please include a map title and scale.
2. The project is located in which region (see attached map): ☒ Northern ☐ Southcentral ☐ Southeast
☐ within or associated with the Trans-Alaska Pipeline corridor
3. Location of project (Include the name of the nearest land feature or body of water.) Colville River Delta and NPR-A (see Table 1 of Project Description for drill site location details).
Township _____ Range _____ Section _____ Meridian _____ Latitude/Longitude _____
_____/ _____ USGS Quad Map Harrison Bay A-2 _____
4. Is the project located in a coastal district? Yes ☒ No ☐ If yes, identify: North Slope Borough _____
(Coastal districts are a municipality or borough, home rule or first class city, second class with planning, or coastal resource service area.) Note: A coastal district is a participant in the State's consistency review process. It is possible for the State review to be adjusted to accommodate a local permitting public hearing. Early interaction with the district is important; please contact the district representative listed on the attached contact list.
5. Identify the communities closest to your project location: Nuiqsut, Alaska _____
6. The project is on: ☒ State land or water* ☒ Federal land ☒ Private land
☐ Municipal land ☐ Mental Health Trust land
*State land can be uplands, tidelands, or submerged lands to 3 miles offshore. See Question #1 in DNR section.
Contact the applicable landowner(s) to obtain necessary authorizations.

■ DEPARTMENT OF ENVIRONMENTAL CONSERVATION (DEC) APPROVALS

- | | Yes | No |
|--|--------------------------|-------------------------------------|
| 1. Will a discharge of wastewater from industrial or commercial operations occur? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Will the discharge be connected to an already approved sewer system? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Will the project include a stormwater collection/discharge system? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Do you intend to construct, install, modify, or use any part of a wastewater (sewage or greywater) disposal system? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

- a) If so, will the discharge be 500 gallons per day or greater?..... ☐ ☒
- b) If constructing a domestic wastewater treatment or disposal system, will the system be located within fill material requiring a COE permit?..... ☐ ☒

If you answered yes to a) or b), answer the following:

- 1) What is the distance from the bottom of the system to the top of the subsurface water table? _____
- 2) How far is any part of the wastewater disposal system from the nearest surface water? _____
- 3) Is the surrounding area inundated with water at any time of the year?..... ☐ ☐
- 4) How big is the fill area to be used for the absorption system? _____

(Questions 1 & 2 will be used by DEC to determine whether separation distances are being met; Questions 3 & 4 relate to the required size of the fill if wetlands are involved.)

3. Do you expect to request a mixing zone for your proposed project? ☐ ☒
- (If your wastewater discharge will exceed Alaska water quality standards, you may apply for a mixing zone. If so, please contact DEC to discuss information required under 18 AAC 70.032.)*

- | | Yes | No |
|---|-------------------------------------|-------------------------------------|
| 4. a) Will your project result in the construction, operation, or closure of a facility for the disposal of solid waste? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| <i>(Note: Solid waste means drilling wastes, household garbage, refuse, sludge, construction or demolition wastes, industrial solid waste, asbestos, and other discarded, abandoned, or unwanted solid or semi-solid material, whether or not subject to decomposition, originating from any source. Disposal means placement of solid waste on land.)</i> | | |
| b) Will your project result in the treatment of solid waste at the site? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| <i>(Examples of treatment methods include, but are not limited to: incineration, open burning, baling, and composting.)</i> | | |
| c) Will your project result in the storage or transfer of solid waste at the site? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Will the project result in the storage of more than 50 tons of materials for reuse, recycling, or resource recovery? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Will any sewage solids or biosolids be disposed of or land-applied to the site? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| <i>(Sewage solids include wastes that have been removed from a wastewater treatment plant system, such as a septic tank, lagoon dredge, or wastewater treatment sludge that contain no free liquids. Biosolids are the solid, semi-solid, or liquid residues produced during the treatment of domestic septage in a treatment works which are land applied for beneficial use.)</i> | | |
| 5. Will your project require the application of oil, pesticides, and/or any other broadcast chemicals? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 6. a) Will you have a facility with industrial processes that are designed to process no less than five tons per hour and needs air pollution controls to comply with State emission standards? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Will you have stationary or transportable fuel burning equipment, including flares, with a total fuel consumption capacity no less than 50 million Btu/hour? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Will you have a facility with incinerators having a total charging capacity of no less than 1,000 pounds per hour? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Will you have a facility with equipment or processes that are subject to Federal New Source Performance Standards or National Emission Standards for hazardous air pollutants? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) Will you propose exhaust stack injection? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Will you have a facility with the potential to emit no less than 100 tons per year of any regulated air contaminant? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Will you have a facility with the potential to emit no less than 10 tons per year of any hazardous air contaminant or 25 tons per year of all hazardous air contaminants? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Will you construct or add stationary or transportable fuel burning equipment of no less than 10 million Btu/hour in the City of Unalaska or the City of St. Paul? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Will you construct or modify in the Port of Anchorage a volatile liquid storage tank with a volume no less than 9,000 barrels, or a volatile liquid loading rack with a design throughput no less than 15 million gallons? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) Will you be requesting operational or physical limits designed to reduce emissions from an existing facility in an air quality nonattainment area to offset an emission increase from another new or modified facility? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 7. Will you be developing, constructing, installing, or altering a public water system? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8. a) Will your project involve the operation of waterborne tank vessels or oil barges that carry crude or non-crude oil as bulk cargo, or the transfer of oil or other petroleum products to or from such a vessel or a pipeline system? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Will your project require or include onshore or offshore oil facilities with an effective aggregate storage capacity of greater than 5,000 barrels of crude oil or greater than 10,000 barrels of non-crude oil? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

- | | Yes | No |
|---|-------------------------------------|--------------------------|
| c) Will you be operating facilities on the land or water for the exploration or production of hydrocarbons? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

If you answered "NO" to ALL questions in this section, continue to next section.

If you answered "YES" to ANY of these questions, contact the DEC office nearest you for information and application forms. Please be advised that all new DEC permits and approvals require a 30-day public notice period. DEC Pesticide permits take effect no sooner than 40 days after the permit is issued.

Based on your discussion with DEC, please complete the following:

Types of project approvals or permits needed	Date application submitted
<u>Amend Alpine ODPCP (CD3 and CD4)</u>	<u>January 16, 2004</u>
<u>Amend Alpine ODPCP (CD5, CD6, CD7)</u>	<u>At a later date</u>
<u>Air Quality Construction Permit (for CD3 and CD4)</u>	<u>January 16, 2004</u>
<u>Owner Requested Limits (for CD5, CD6, and CD7)</u>	<u>At a later date</u>
<u>Temporary Storage of Drilling Waste Notice</u>	<u>January 16, 2004</u>

9. Does your project qualify for a general permit for wastewater or solid waste?..... ☐ Yes ☒ No
Note: A general permit is an approval issued by DEC for certain types of routine activities.

If you answered "YES" to any questions in this section and are not applying for DEC permits, indicate reason:
☐ _____ (DEC contact) told me on _____ that
 no DEC approvals are required on this project because _____
☐ Other: _____

■ DEPARTMENT OF FISH AND GAME (DFG) APPROVALS

- | | Yes | No |
|--|--------------------------|-------------------------------------|
| 1. Is your project located in a designated State Game Refuge, Critical Habitat Area or State Game Sanctuary? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Does your project include the construction/operation of a salmon hatchery? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Does your project affect, or is it related to, a previously permitted salmon hatchery? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. Does your project include the construction of an aquatic farm? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

If you answered "NO" to ALL questions in this section, continue to next section.

If you answered "Yes" to ANY questions under 1-4, contact the DFG Commercial Fisheries Division headquarters for information and application forms

Based on your discussion with DFG, please complete the following:

Types of project approvals or permits needed	Date application submitted
_____	_____
_____	_____

If you answered "YES" to any questions in this section and are not applying for DFG permits, indicate reason:
☐ _____ (DFG contact) told me on _____ that no DFG approvals are required
 on this project because _____
☐ Other: _____

■ DEPARTMENT OF NATURAL RESOURCES (DNR) APPROVALS

1. Is the proposed project on State-owned land or water or will you need to cross State-owned land for access? ("Access" includes temporary access for construction purposes. *Note: In addition to State-owned uplands, the State owns almost all land below the ordinary high water line of navigable streams, rivers and lakes, and below the mean high tide line seaward for three miles.*) ☒ ☐
- a) Is this project for a commercial activity? ☒ ☐
2. Is the project on Alaska Mental Health Trust land (AMHT) or will you need to cross AMHT land?
Note: Alaska Mental Health Trust land is not considered State land for the purpose of ACMP reviews. ☐ ☒
3. Do you plan to dredge or otherwise excavate/remove materials on State-owned land? ☐ ☒
Location of dredging site if different than the project site:
Township _____ Range _____ Section _____ Meridian _____ USGS Quad Map _____
4. Do you plan to place fill or dredged material on State-owned land? ☒ ☐
Location of fill disposal site if other than the project site:
Township _____ Range _____ Section _____ Meridian _____ USGS Quad Map _____
Source is on: ☒ State Land ☐ Federal Land ☒ Private Land ☐ Municipal Land
5. Do you plan to use any of the following State-owned resources: ☒ ☐
☐ **Timber:** Will you be harvesting timber? Amount: _____
☒ **Materials such as rock, sand or gravel, peat, soil, overburden, etc.:**
Which material? Gravel _____ Amount: Estimate of 1,975,000 cubic yards (cy). Refer to Figures 4, 5, 6, 7, and 8 in Project Description for details. CD3 (254,000 cy), CD4 (338,000 cy), CD5 (79,000 cy), CD6 (854,000 cy), and CD7 (450,000 cy). _____
Location of source: ☐ Project site ☒ Other, describe: ASRC Mine Site (located at T10N, R5E, Section 10) will provide gravel for CD3 and CD4; and Clover Mine Site (located at T10N, R3E, Section 12) will provide gravel for CD5, CD6, and CD7). _____
Township see above Range see above Section see above Meridian Umiat USGS Quad Map Harrison Bay A-2
6. Are you planning to divert, impound, withdraw, or use any fresh water, except from an existing public water system or roof rain catchment system (regardless of land ownership)? ☒ ☐
Amount (maximum daily, not average, in gallons per day): 38,000 gal/day operations and up to 2 million gal./day for ice road construction. _____
Source: Refer to Figure 68 and 69 of the Project Description . _____ Intended Use: Ice roads and construction. _____
If yes, will your project affect the availability of water to anyone holding water rights to that water? ... ☐ ☒
7. Will you be building or altering a dam (regardless of land ownership)? ☐ ☒
8. Do you plan to drill a geothermal well (regardless of land ownership)? ☐ ☒
9. At any one site (regardless of land ownership), do you plan to do any of the following? ☒ ☐
☒ Mine five or more acres over a year's time
☒ Mine 50,000 cubic yards or more of materials (rock, sand or gravel, soil, peat, overburden, etc.) over a year's time
☐ Have a cumulative unreclaimed mined area of five or more acres
If yes to any of the above, contact DNR about a reclamation plan.
If you plan to mine less than the acreage/amount stated above and have a cumulative unreclaimed mined area of less than five acres, do you intend to file a voluntary reclamation plan for approval? ☐ ☐
10. Will you be exploring for or extracting coal? ☐ ☒

11. a) Will you be exploring for or producing oil and gas? ☒ ☐
 b) Will you be conducting surface use activities on an oil and gas lease or within an oil and gas unit? ☒ ☐

12. Will you be investigating, removing, or impacting historical or archaeological or paleontological resources (anything over 50 years old) on State-owned land? ☐ ☒

13. Is the proposed project located within a known geophysical hazard area? ☒ ☐

Note: 6 AAC 80.900(9) defines geophysical hazard areas as "those areas which present a threat to life or property from geophysical or geological hazards, including flooding, tsunami run-up, storm surge run-up, landslides, snowslides, faults, ice hazards, erosion, and littoral beach process." "known geophysical hazard area" means any area identified in a report or map published by a federal, state, or local agency, or by a geological or engineering consulting firm, or generally known by local knowledge, as having known or potential hazards from geologic, seismic, or hydrologic processes.

14. Is the proposed project located in a unit of the Alaska State Park System? ☐ ☒

15. Will you be working in, removing water or material from, or placing anything in, a stream, river or lake? (This includes work or activities below the ordinary high water mark or on ice, in the active flood plain, on islands, in or on the face of the banks, or, for streams entering or flowing through tidelands, above the level of mean lower low tide.)
Note: If the proposed project is located within a special flood hazard area, a floodplain development permit may be required. Contact the affected city or borough planning department for additional information and a floodplain determination.) ☒ ☐

Name of waterbody: Colville River, Niglig Channel, Ublutuooh River, Sakoonang Channel, Tamayagiaq Channel, Ulanmigiaq Channel, L9323.

16. Will you do any of the following: ☒ ☐

Please indicate below:

- | | |
|--|---|
| <input type="checkbox"/> Build a dam, river training structure, other instream impoundment, or weir | <input checked="" type="checkbox"/> Build a bridge (including an ice bridge) |
| <input checked="" type="checkbox"/> Use the water | <input checked="" type="checkbox"/> Use the stream, lake or waterbody as a road (even when frozen), or cross the stream with tracked or wheeled vehicles, log-dragging or excavation equipment (backhoes, bulldozers, etc.) |
| <input checked="" type="checkbox"/> Pump water into or out of stream or lake (including dry channels) | <input checked="" type="checkbox"/> Install a culvert or other drainage structure |
| <input type="checkbox"/> Divert or alter the natural stream channel | <input checked="" type="checkbox"/> Construct, place, excavate, dispose or remove any material below the ordinary high water of a waterbody |
| <input type="checkbox"/> Change the water flow or the stream channel | <input type="checkbox"/> Construct a storm water discharge or drain into the waterbody |
| <input type="checkbox"/> Introduce silt, gravel, rock, petroleum products, debris, brush, trees, chemicals, or other organic/inorganic material, including waste of any type, into the water | <input checked="" type="checkbox"/> Place pilings or anchors |
| <input type="checkbox"/> Alter, stabilize or restore the banks of a river, stream or lake (provide number of linear feet affected along the bank(s)) | <input type="checkbox"/> Construct a dock |
| <input type="checkbox"/> Mine, dig in, or remove material, including woody debris, from the beds or banks of a waterbody | <input checked="" type="checkbox"/> Construct a utility line crossing |
| <input type="checkbox"/> Use explosives in or near a waterbody | <input type="checkbox"/> Maintain or repair an existing structure |
| | <input type="checkbox"/> Use an instream in-water structure not mentioned here |

If you answered "No" to ALL questions in this section, continue to next section.

If you answered "Yes" to ANY questions under 1-16, contact the Area DNR, office for information and application forms.

Based on your discussion with DNR, please complete the following:

Types of project approvals or permits needed

Date application submitted

Title 16 Fish Habitat Permit

January 16, 2004

Lease Unit Plan of Operations

January 16, 2004

Temporary Water Use Permit Application

January 16, 2004

38.05 ROW Application

January 16, 2004

If you answered "YES" to any questions in this section and are not applying for DNR permits, indicate reason:
☐ _____ (DNR contact) told me on _____ that no DNR approvals are required
on this project because _____

FEDERAL APPROVALS

Yes No

U.S. Army Corps of Engineers (COE)

1. Will you be dredging or placing structures or fills in any of the following:

tidal (ocean) waters? streams? lakes? wetlands*? ☒ ☐

If yes, have you applied for a COE permit? ☒ ☐

Date of submittal: January 16, 2004

(Note: Your application for this activity to the COE also serves as application for DEC Water Quality Certification.)

*If you are not certain whether your proposed project is in a wetlands (wetlands include muskegs), contact the COE, Regulatory Branch at (907) 753-2720 for a wetlands determination (outside the Anchorage area call toll free 1-800-478-2712).

Bureau of Land Management (BLM)

2. Is the proposed project located on BLM land, or will you need to cross BLM land for access? ☒ ☐

If yes, have you applied for a BLM permit or approval? ☒ ☐

Date of submittal: January 16, 2004

U.S. Coast Guard (USCG)

3. a) Will you be constructing a bridge or causeway over tidal (ocean) waters, or navigable rivers, streams or lakes? ☒ ☐

b) Does your project involve building an access to an island? ☐ ☒

c) Will you be siting, constructing, or operating a deepwater port? ☐ ☒

If yes, have you applied for a USCG permit? ☒ ☐

Date of submittal: January 16, 2004 - Section and Bridge Permit

U.S. Environmental Protection Agency (EPA)

4. a) Will the proposed project have a discharge to any waters? ☐ ☒

b) Will you be disposing of sewage sludge (contact EPA at 206-553-1941)? ☒ ☐

If you answered yes to a) or b), have you applied for an EPA National Pollution Discharge Elimination System (NPDES) permit? ☐ ☒

Date of submittal: NOI for coverage under North Slope General NPDES permit AKG-33-0000 will be submitted prior to discharge.

(Note: For information regarding the need for an NPDES permit, contact EPA at (800) 424-4372.)

c) Will construction of your project expose 5 or more acres of soil? (This applies to the total amount of land disturbed, even if disturbance is distributed over more than one season, and also applies to areas that are part of a larger common plan of development or sale.) ☒ ☐

d) Is your project an industrial facility which will have stormwater discharge which is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant? ☐ ☒

If you answered yes to c) or d), your project may require an NPDES Stormwater permit. Contact EPA at 206-553-8399.

Federal Aviation Administration (FAA)

5. a) Is your project located within five miles of any public airport? ☒ ☐

b) Will you have a waste discharge that is likely to decay within 5,000 feet of any public airport? ☐ ☒

If yes, please contact the Airports Division of the FAA at (907) 271-5444.

Federal Energy Regulatory Commission (FERC)

6. a) Does the project include any of the following:

1) a non-federal hydroelectric project on any navigable body of water ☐ ☒

2) a location on federal land (including transmission lines) ☒ ☐

3) utilization of surplus water from any federal government dam ☐ ☒

b) Does the project include construction and operation, or abandonment of natural gas pipeline facilities under sections (b) and (c) of the Federal Power Act (FPA)? ☐ ☒

- Yes No
- c) Does the project include construction for physical interconnection of electric transmission facilities under section 202 (b) of the FPA? ☐ ☒

If you answered yes to any questions under number 6, have you applied for a permit from FERC? ☐ ☒

Date of submittal: _____

(Note: For information, contact FERC, Office of Hydropower Licensing (202) 219-2668; Office of Pipeline Regulation (202) 208-0700; Office of Electric Power Regulation (202) 208-1200.)

U.S. Forest Service (USFS)

7. a) Does the proposed project involve construction on USFS land? ☐ ☒
- b) Does the proposed project involve the crossing of USFS land with a water line? ☐ ☒
- If the answer to either question is yes, have you applied for a USFS permit or approval? ☐ ☐

Date of submittal: _____

8. Have you applied for any other federal permits or authorizations? ☒ ☐

AGENCY	APPROVAL TYPE	DATE SUBMITTED
USFWS	LOA Incidental Take	January 16, 2004
FAA	Landing Approval	January 16, 2004
BLM	Appl. For Permit to Drill	January 16, 2004

ease be advised that the CPQ identifies permits subject to a consistency review. You may need additional permits in other agencies or the affected city and/or borough government to proceed with your activity.

Certification Statement

The information contained herein is true and complete to the best of my knowledge. I certify that the proposed activity complies with, and will be conducted in a manner consistent with, the Alaska Coastal Management Program.


Signature of Applicant or Agent

1/16/04
Date

Note: Federal agencies conducting an activity that will affect the coastal zone are required to submit a federal consistency determination, per 15 CFR 930, Subpart C, rather than this certification statement. ACMP has developed a guide to assist federal agencies with this requirement. Contact ACMP to obtain a copy.

This certification statement will not be complete until all required State and federal authorization requests have been submitted to the appropriate agencies.

To complete your packet, please attach your State permit applications and copies of your federal permit applications to this questionnaire.